

# Request for Proposal

## P1364 – RMG Copper Tailings Storage Facility



### **Valves**

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## 1 INTRODUCTION AND PROJECT DESCRIPTION

JSC RMG Copper is carrying out the detailed engineering of its new Tailings Storage Facility (TSF) and is requesting the proposals for procuring the valves needed within tailings thickening area and long-distance pipeline. The site is located in southern Georgia (Eastern Europe), approximately 80 km southwest from capital Tbilisi, near the town of Bolnisi. Site access will be via paved local roads. Refer to figure 1 for general site location



*Figure 1: JSC RMG Copper, Site location*

The present document covers and provides the minimum requirements and specifications needed for automatic, on/off valves, manual valves and self acting pressure regulators for tailings thickening and the tailings long-distance transport areas.

All communications with respect to the RFP are to be directed to RMG Copper by email to the below list of recipients:

Recipient	Position	Contact email
Gvantsa Gvazava	Head of Procurement Group	ggvazava@richmetalsgroup.com
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Complete, technical and commercial proposals to be submitted in electronic format.

## 2 CLOSING DATE

Technical and Commercial Proposals to be sent no later than 5:00PM EET on May 25, 2022

### 3 SUBMISSIONS

The documents and all drawings, design, specifications and other data appended or related to it are the property of JSC RMG Copper and are supplied only for the purpose of enabling each potential bidder to prepare and submit a proposal package. The information contained or referred to in the RFP documents or appended to it is not to be disclosed or released for any other use or purpose.

### 4 PRICING

A lump sum with fixed and firm prices, in USD (\$) or Euros (€), without subjected price escalation and exclusive of local taxes must be furnished for all items included in chapter 5 – Scope of delivery.

Prices for all valves should consider 2 options:

**Option Price a:** Valves to be stainless steel

**Option Price b:** Valves to be on carbon steel

Price detail must be incorporated in the corresponding cells of the attached annexes 1, 2, 3 and 4 that include all valves and pressure regulators.

### 5 SCOPE OF DELIVERY

The offer will cover the provision of complete packages of Automatic Control Valves, Automatic ON/OFF valves, Manual valves and Pressure regulators. The valves should be selected to be used in one of the following applications:

- Slurry circuits (PFT).
- Process Water circuits (WPR).
- Gland Seal Water (WFR)
- Air ventilation in pipes (AIR)
- Reagents Service (LFR)

**All automatic valves should be complete with the control loop including the signal transmitter and positioner, as well as all automatic valves with local control to allow DCS connection if needed.**

**All valves are electrically actuated, and all actuators must be equipped with appropriate cable glands.**

Detailed tables including valve type, process medium, Pressure class (PN), Diameter (DN), Tags among other relevant technical requirements are attached in appendixes 1, 2, 3 and 4.

## 6 TECHNICAL SPECIFICATION

### 6.1 Valves

#### **Slurry Service (PFT):**

- Ball valve:
  - Diameter more than 50 mm, Cl.150/SS Body and ball or equivalent.
  - Diameter less than 50 mm, Cl.300/SS Body and ball or equivalent.
  
- Knife gate valve:
  - Diameter from 50 to 400 mm, Cl.150/Ductile Iron/Wafer or equivalent.
  - Diameter from 400 to 600 mm, Cl.90/Ductile Iron/Wafer or equivalent.
  
- Diaphragm valve: Cl.150 Cast Iron /Plastic lined/FF or equivalent.

#### **Process water (WPR) and Gland Seal Water (WFR) services:**

- Ball valve:
  - Diameter less than 50 mm, Cl.300/ 316 SS/ screwed or equivalent
  
- Butterfly valve:
  - Process water: From diameter 50 to 600 mm, Cl.150/Ductile Iron/Wafer or equivalent.
  - Gland seal water: From diameter 50 to 150 mm, Cl.300/Carbon steel/Wafer or equivalent.

#### **Air Service (AIR):**

- Ball valve:
  - Diameter less than 2", Cl.150, Brass screwed, or equivalent.
- Butterfly valve:
  - Cl.150/Ductile Iron/Lug or equivalent.
  -

#### **Reagent's service (LFR):**

Reagent's solutions used around the plant are: Flocculant Magnafloc 155

- Ball valve:
  - 50 mm Diameter, Cl.150/Carbon steel/RF or equivalent.
  - 15 mm to 40 mm Diameter, Cl.225 WOG/PVC Body/FF or equivalent.
  - 8 mm to 15 mm Diameter, Cl.150/PVC Body/threaded or equivalent.

Specification given bellow are minimum requirement to be considered by the vendor. Equivalent or better specification should be adopted by the vendor. More process information is given in the appendixes 1, 2, 3 and 4 to determine chemical compatibility, physical design specifications and sizing. European Standards should be used for flanges and couplings.

Each valve should be tagged as given in the appendixes.

## 6.2 Control Loop

- **ON/OFF Valves:**
  - Solenoid power if needed: 24Vdc (loop 1)
  - Limit switch (Open) dry contacts feed-back: 24Vdc (loop 2)
  - Limit switch (Close) dry contacts feed-back: 24Vdc (loop 3)
  - FAULT (loop 4)
  - Wires Number: 8 + 2 spare wires
  
- **Automatic Control Valves.**
  - Control: 4-20ma (loop 1)
  - Power: 24Vdc (loop 2)
  - Positioner feed-back: 4-20mA (loop 3)
  - FAULT (loop 4)
  - Wires Number: 8 + 2 spare wires

## 7 DESIGN INFORMATION

### 7.1 Site and Operation Conditions

<b>General Data</b>		
Latitude	° / min / sec	41°22'35" N
Longitude		44°25'30" E
Altitude approx. in m (MSL)	m	742
Maximum temperature, celcius degrees	°C	40
Minimum temperature, celcius degrees	°C	-25
Rainfall (snow+water), mm H <sub>2</sub> O	mm	740
Average snow cover approx. in cm	cm	12
Relative humidity	%	76 (average)

### **Seismicity Parameters**

Annual Exceedance Probability (AEP)	MSK-64	PGA (g)
1:1,000 year (5% in 50 years)	8	0.20 - 0.30
1:2,500 year (2% in 50 years)	9	0.20 - 0.30
1:5,000 year (1% in 50 years)	9	0.30 - 0.40

### General Operation Values

Annual operation time	h	8200
Annual throughput	t/a	3000000
Average throughput		366

## 8 SUBMISSION REQUEST

**It is obligatory to fill in the enclosed appendices, including links to proposed valves datasheets along with submitting summary proposal covering the following required information.**

The technical proposal must include the following documentation:

- Technical specification.
- Installation, Operations and Maintenance Manuals (can be provided later by shortlisted companies).
- List of equipment
- General arrangement drawings for offered equipment
- List of Certifications and tests to be performed during the delivery of valves.

The commercial proposal must include but not limited to:

- Validity of proposal
- References of the mining companies where the vendor's products were installed by indicating the company/project name, year of installation.
- Total summary of proposed budget by valve types
- Priced to be added to individual valve line in the attached valve lists (appendices)
- Spare parts lists (including price breakdown) needed for commissioning/start-up and 2 years maintenance (at vendor's discretion).
- Support in installation and commissioning (ideally anticipated budget with indication of daily rate if not only daily rate).
- Delivery terms (no ex-works terms accepted) and general sales conditions.
- Guaranty terms
- Payment terms

## 9 ATTACHMENTS TO THIS REQUEST FOR PROPOSAL

- Appendix 1: Automatic ON/OFF Valves

- Appendix 2: Automatic Control Valves
- Appendix 3: Manual Valves
- Appendix 4: Self-acting Pressure Regulators